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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,657	06/30/2005	Ruxandra Gref	P08535US00/BAS	5186
881 7590 06/03/2009 STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314			EXAMINER PALENIK, JEFFREY T	
			ART UNIT 1615	PAPER NUMBER
			MAIL DATE 06/03/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/520,657

**Applicant(s)**

GREF ET AL.

**Examiner**

Jeffrey T. Palenik

**Art Unit**

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 March 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) 16-23 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 and 24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 04 March 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **STATUS OF THE APPLICATION**

Applicants' amendments and remarks, filed 4 March 2009 regarding Application N° 10/520,657, are acknowledged and entered on the record. The Examiner acknowledges the following:

Claims 1-24 are pending, where claims 16-23 remain presently withdrawn from consideration.

Claims 1-3, 8, 9, 11, 13 and 14 have been amended. Support for the amendments, while not expressly provided by Applicants and where not supported by the original claims, was found within the specification.

No new claims have been added or cancelled.

No new matter has been added.

Thus, claims 1-15 and 24 continue to represent all claims currently under consideration.

### **INFORMATION DISCLOSURE STATEMENT**

No new Information Disclosure Statements (IDS) have been filed for consideration.

### **WITHDRAWN OBJECTIONS/REJECTIONS**

#### Objection to the Specification

Applicant's amendment to the Abstract of the Invention has been considered fully and is persuasive. Thus, said objection has been **withdrawn**.

Applicants' replacement Drawing submitted to clarify the resolution of the drawing previously submitted has been considered and is considered discernible. Thus, said objection has

been **withdrawn**. However, Applicants' have amended the drawing from that which was originally submitted. An objection regarding said change is presented below.

#### Objection to the Claims

Applicants' amendment to claim 11, clarifying that 80% of compounds (A) and (B) within the overall composition are contained within the particles formed by mixing compounds (A) and (B) in the aqueous medium, has been considered fully and is persuasive. Thus, said objection has been **withdrawn**.

#### Rejection under 35 USC 112

Applicants' amendment to claim 1, replacing the phrase "contain, in association with" with "comprising", renders moot the rejection, under 35 USC 112, second paragraph. Thus, said rejection stands **withdrawn**.

Applicants' amendment to claim 8, renders moot the lack of antecedent basis rejection, under 35 USC 112, second paragraph. Thus, said rejection stands **withdrawn**.

Applicants' amendment to claim 9, clarifying the ratio of component (A) to (B), renders moot the rejection, under 35 USC 112, second paragraph. Thus, said rejection stands **withdrawn**.

#### **NEW OBJECTION**

In light of Applicant's amendments to the drawing the following objection is newly added:

#### **SPECIFICATION**

The amendment filed 4 March 2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the addition of the “1  $\mu\text{m}$ ” scale to the drawing. The support provided by Applicants asserts that since “the present specification discloses how to make the depicted particles and their composition. Therefore, from the original drawing and the specification one skilled in the art could deduce the now identified scale” [emphasis added].

The Examiner has reviewed both the originally presented drawing and the specification, particularly page 25 (the final line preceding the Examples) and respectfully submits that no scale or particle size depicted by the drawing can be ascertained. Thus, it is not clear to the Examiner what support or basis Applicants have for providing the scale in the newly presented drawing.

Applicant is required to cancel the new matter in the reply to this Office Action.

#### **MAINTAINED REJECTIONS**

The following rejection is maintained from the previous Office Correspondence dated 19 August 2008 since the art which was previously cited continues to read on the amended limitations.

**CLAIM REJECTIONS - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Independent Claim 1 and dependent claims 2-15 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Claim 1 is drawn to a composition comprising a dispersion of particles which contain, in association, polycyclodextrin molecules and macromolecules of polysaccharides which comprise “groups (G)” wherein said groups are capable of forming inclusion complexes with the cyclodextrins. Claim 7 further defines said “groups” as being aliphatic groups, linear or branched, having 8-18 carbon atoms. As discussed above, the Examiner acknowledges Applicants’ election of C<sub>12</sub> aliphatic groups. However, the Examiner further acknowledges that neither the term “groups” nor “C<sub>12</sub> aliphatic groups” is mentioned in the instant specification, the term is not defined by the instant specification in a clear and concise manner. As such, the disclosure of the instant specification is not sufficient to support either of the generic concepts of “groups” or “C<sub>12</sub> aliphatic groups” and requires further clarification. As construed in the prior art, the Examiner is interpreting the term “group” to mean any chemical formulation found to associate with polysaccharides or polysaccharide macromolecules (See US Patent 6,048,736; column 12, lines 6-20).

#### RESPONSE TO ARGUMENTS

Applicants' remarks with regard to the written description rejection of claims 1-15 and 24 under 35 USC 112, first paragraph, have been fully considered but they are not persuasive.

Applicants state that "one of ordinary skill in the art would know that a C<sub>12</sub> aliphatic group corresponds to a species subgroup of the C<sub>8</sub>-C<sub>18</sub> aliphatic group" discussed in the specification. Applicants further allege that the Amiel Declaration (¶6) with attached Appendix A further supports that which the ordinarily skilled artisan would understand with regard to the definition of "groups (G)" and "C<sub>12</sub> aliphatic groups".

In response, the Examiner respectfully submits that after reviewing both the Amiel Declaration and Appendix A, that it remains unclear how Applicants are defining either of the aforementioned terms. Furthermore, it is not clear where in Appendix A, C<sub>12</sub> aliphatic groups are even discussed. Thus, the remarks and evidence provided are determined to lend no further definition or description to the instant claims.

For these reasons, Applicants' arguments are found unpersuasive. Said rejection is therefore **maintained**.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "at least" as recited in claims 1, 3, 11, 12 and 14, renders each of the claims indefinite because, in each instance, the phrase precedes a single numerical value (e.g. a percent,

a number of cyclodextrin units, etc.), thereby reciting an ambiguous and open-ended range limitation (see MPEP §§2163.05(III) and 2173.05(II)). Read broadly, the claims where the numerical values represent percentages, the claims can be reasonably argued as reciting a composition comprising 100% by weight of the respective component.

#### **RESPONSE TO ARGUMENTS**

Applicants' amendments with regard to the indefinite rejection of claims 1, 3, 11, 12 and 14 under 35 USC 112, second paragraph, regarding the term "at least" have been fully considered but they are not persuasive.

Applicants assert that "the claim amendments now more clearly recite the terms, percentages, and amounts so as to unambiguously recite the claimed quantities" in compliance with the statute.

In response, the Examiner respectfully disagrees and maintains that despite Applicants' amendments, for example to claim 1 (i.e. "comprising at least an average of four"), as well as the maintained recitation in claim 3 (i.e. "on average at least..."), no further clarity regarding has been provided for the claimed invention. The "at least/on average" do not clearly recite a quantity which may be interpreted as Applicants' invention. The limitation, as recited, is carried forward to claims 11, 12 and 14, as well as the remaining dependent claims. Use of the term "at least", as used in claim 14 is maintained for the same reasons, particularly since the range is open-ended and despite Applicants' amendment, no clarity regarding the invention has been provided.



For these reasons, Applicants' arguments are found unpersuasive. Said rejection is therefore **maintained**.

Regarding claim 1, the phrase "capable" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Herein, and for the purposes of examination on the merits, the Examiner broadly and reasonably interprets part (B) of the composition as reciting macromolecules of polysaccharides.

Regarding claim 13, the phrase "capable" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Herein, and for the purposes of examination on the merits, the Examiner broadly and reasonably interprets the particles as further comprising at least one additional chemical compound (C) as recited in the preceding instant claim 12.

#### **RESPONSE TO ARGUMENTS**

Applicants' remarks with regard to the indefinite rejections of claims 1 and 13 under 35 USC 112, second paragraph, have been fully considered but they are not persuasive.

Applicants assert that "the Amiel Declaration (§7) describes that the term "capable" would be understood by one skilled in the art that the claimed compound may, but not necessarily, guarantee that all macromolecules are complexed..." [*emphasis added*].

In response, the Examiner respectfully submits that neither Applicants' remarks nor Declaration provide any further evidence or clarification as to whether Groups (G) form

inclusion complexes with the macromolecules of polysaccharides (i.e. component (B)) or whether compound (C) forms inclusion complexes with one of the cyclodextrin units of component (A).

For this reason, Applicants' arguments are found unpersuasive. Said rejection is therefore **maintained**.

### CLAIM REJECTIONS - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amiel et al. (*Stimuli-Responsive Water Soluble and Amphiphilic Polymers -- ACS Symposium Series; Chapter 4: "Macromolecular Assemblies Generated by Inclusion Complexes between Amphiphilic Polymers and  $\beta$ -Cyclodextrin Polymers in Aqueous Media"*).

The instant claims are directed to a composition comprising an aqueous dispersion of 50-5,000 nm diameter particles comprising (A) polycyclodextrin molecules of 4 or more units and (B) macromolecules of polysaccharides (claims 1, 5, 8, 11 and 24). Claims 5 and 24 both recite limitations which are deemed product-by-process limitations, which per MPEP §2113, hold no patentable weight towards the composition itself. Claim 1 recites an additional limitation wherein the compounds (A) and (B) are independently water-soluble. These solubility limitations are chemical properties which are examined as being inseparable from their respective chemical components (see MPEP §2112.01(II)). Similarly, limitation to the rate of grafting as recited in claim 8 is also interpreted by the Examiner as an inseparable property of the polysaccharide(s) of claim 1. Claim 2 further limits the diameter of the particles. Additional limitations to polymer (A) are recited such as the number of cyclodextrin units, the type of cyclodextrin, and the molar mass of the polymer (claims 4-6). The limitation of claim 7, recites that the groups (G) are linear or branched aliphatic groups having 8-18 carbon atoms. The limitation of claim 9 recites a concentration range of 18-1000  $\beta$ -CD units per polysaccharides (B), wherein the polysaccharides range from 3-5% in their hydrophobic substitution and 6,000-70,000 in their molecular mass. Claim 10 recites a ratio limitation for cyclodextrin to aliphatic chains of the polysaccharides. The particles are recited as having at least one additional compound (claims 12-14), wherein the compound has a cosmetic or therapeutic effect (claim 15).

Amiel et al. teach that compositions comprising a variety of structures of host-guest polymers (e.g. inclusion complexes) wherein the host comprises  $\beta$ -cyclodextrin polymers (e.g. supramolecular  $\beta$ -CD) complexed with amphiphilic guest polymers which themselves comprise

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hydrophobically modified dextran molecules (Title and Abstract, pp. 58-59 and ¶1 of pg. 59).

Said hydrophobic modifications are taught as comprising rigid (e.g. adamantyl groups) or flexible structures (e.g. alkyl chains with more than 12 carbon atoms) (Abstract, pg. 58). Figure 3 on page 62, teaches the structure of some of the hydrophobic groups which may be used, the last of which is a linear, aliphatic 12-carbon carboxylate group. Both components are taught as being individually water soluble (see Abstract, pg. 58 and ¶1, pg. 64). Polymers of  $\beta$ -CD are taught wherein oligomeric  $\beta$ -CD contains an average of 3-4 units, low molecular weight polymers contain an average of 15 units, and high molecular weight chains contain more than 1000 units (pg. 65,  *$\beta$ -Cyclodextrin Polymers*). Table III teaches that the high molecular weight  $\beta$ -CD polymers will range in weight from 210,000 to 1,100,000 and comprise 87% w/w of the molecule. Since the Table does not say anything as to whether the  $\beta$ -CD molecules contain any molecules of hydrophobically modified dextran, it is interpreted that the 87% w/w value is  $\beta$ -CD alone. Table II (pg. 64) teaches various embodiments of Dextran-adamantane (Dext-Ad) and Dextran-alkane (Dext-Alk) and their properties. For instance, alkane-modified dextran polymers are taught as having a molecular weight of 40,000 and hydrophobic molar ratio (e.g. hydrophobic substitution rate) ranging from 2.8-5.1%. Inclusion complex interactions are further taught such that the interaction strength of the overall chain is able to be tailored based on the number of  $\beta$ -CD cavities (e.g. empty units) available in the chain, the number of which ranges from 3-1000 in the chain (pp.70-71, *Aggregation in Solution*). Figure 2 depicts a polymer chain comprising  $\beta$ -CD polymers both hydrophobically modified and vacant at the instantly claimed ratio. Figure 9 (pg. 71) teaches a 1:1 ratio of total  $\beta$ -CD units to aliphatic chains present by way of substituents on the polysaccharide macromolecules. More specifically taught is a 50/50

mixture comprising branched-aliphatic, hydrophobically-substituted Dext-Ad ( $M_w = 500,000$ ; 2.4%Ad) and  $\beta$ -CD/EP. Amiel et al. also teach that the polymer of inclusion complexes may comprise at least one additional chemical compound such as polyethylene oxide (PEO), which may alternatively be complexed with the hydrophobic alkyl group and further complexed with  $\beta$ -CD molecules (Tables II-IV). Furthermore, the last paragraph of the Conclusion teaches that the guest molecule may also be a drug (pg. 80).

Amiel et al. do not expressly teach the instantly claimed particle ranges.

In view of the teachings of the prior art, one of ordinary skill in the pharmaceutical or biomedical art, at the time of the invention, would have been motivated to create a complex comprising supramolecular,  $\beta$ -cyclodextrin chain polymers, dextran molecules hydrophobically modified with 12-carbon aliphatic groups, and a therapeutic or cosmetic agent to achieve the claimed aqueous dispersion of particles. Such would have been obvious in the absence of evidence to the contrary since the Chapter 4 article of the *ACS Symposium* expressly teaches hydrophobically modified water soluble polymers and their association as “guest” polymers with their “host”  $\beta$ -CD polymers, polymer structures and sizes, as well as favorable inclusion of hydrophobic drugs as guest molecules.

A person of ordinary skill in the art would have a reasonable expectation of success in modifying the teachings presented by Amiel et al. to prepare the instantly claimed aqueous dispersion of polymer/polysaccharide particles since the Symposium article discloses the instantly claimed composite preparation method. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention.

The reference does not expressly teach the hydrodynamic diameter of the dispersed particles, as claimed by Applicants. Since the values and formats of each parameter with respect to the claimed composition are adjustable, it follows that each is a result-effective parameter that a person having ordinary skill in the art would routinely optimize. Optimization of parameters is a routine practice that would be obvious for a person of ordinary skill in the art to employ. Amiel et al. do teach a relationship of adamantane concentration to hydrodynamic radius whereby  $\beta$ -CD/EP polymer coils which are complexed with polyethylene oxide-adamantane molecules (PEO-Ad) demonstrate radii values of 25-30 nm (e.g. diameters of 50-60 nm). Additional properties such as dimensions of the individual  $\beta$ -CD units (Figure 1) as well as generic schematic representations of  $\beta$ -CD polymerized as inclusion complexes with hydrophobically modified polymers (Figure 2) are taught. Thus, it would have been customary for an artisan of ordinary skill, to be able to adjust the hydrodynamic diameter of the particles as a result of adjusting the arrangement and quantity of  $\beta$ -CD as well as the concentration of the modified polysaccharide with which it is complexed. Thus, absent some demonstration of unexpected results from the claimed parameters, optimization of any of these parameters would have been obvious at the time of Applicants' invention.

#### RESPONSE TO ARGUMENTS

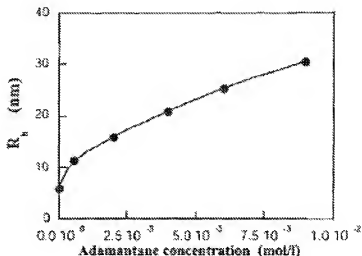
Applicants' arguments with regard to the rejection of claims 1-15 and 24 under 35 USC 103(a) as being unpatentable over the combined teachings of Amiel et al. (*Stimuli-Responsive Water Soluble and Amphiphilic Polymers -- ACS Symposium Series; Chapter 4: "Macromolecular Assemblies Generated by Inclusion Complexes between Amphiphilic Polymers*

and  $\beta$ -Cyclodextrin Polymers in Aqueous Media”) have been fully considered but they are not persuasive.

Applicants allege that the Amiel article:

- does not motivate the skilled artisan to prepare particles larger than what is instantly claimed,
- does not teach any benefit to having large particles (i.e. enhanced stability), and
- teaches the formation of an aqueous solution rather than the instantly claimed aqueous dispersion and that it would be contrary to the teaching of the art to modify the constituents to result in a dispersion of particles,

In response, the Examiner respectfully submits that Applicants have provided no evidence which would suggest that the ordinarily skilled artisan would be incapable of optimizing the hydrodynamic diameter of the particles. Applicants state that “Figure 11 shows that the hydrodynamic radius of the aggregates depends [on] the adamantane concentration” (Remarks, pg. 15, lines 15-17). Said Figure is reproduced here for convenience:



Since the radius and diameter are dependent on the concentration of the adamantane present within the mixture, it thus follows that the instantly claimed diameter is capable of being optimized, particularly since a value/parameter such as concentration is able to be adjusted. Thus, absent any evidence to the contrary, as discussed above, the size of the particle achieved in the Amiel article is a parameter which is within the purview of the skilled artisan to optimize.

Regarding the assertion that the teachings of Amiel produce an aqueous solution rather than the instantly claimed aqueous dispersion, the Examiner respectfully disagrees and maintains that Amiel teaches that the formation of the inclusion complexes (i.e. the hydrophobically-modified  $\beta$ -CD) leads to the formation of macrostructures within the solution (pg. 70). The size of said macrostructures again is determined by polymer concentration and interaction strength between the host and guest polymers. Thus, it is concluded that admixing two ingredients such as polysaccharides (i.e. unmodified  $\beta$ -CD) and the aforementioned inclusion complexes, both of which are taught as being individually soluble in water, leads to an agglomerated composition, such as the one shown in Figure 2, which aggregates or separates out of solution.



In response to Applicants' argument that the references fail to show certain features of Applicants' invention, it is noted that the features upon which Applicant relies (i.e., enhanced stability) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Lastly, Applicants filed a Declaration under 37 CFR 1.132 on 4 March 2009, in response to the Non-final Rejection, mailed 4 September 2008. Said declaration has been both entered and carefully considered. Since the Declaration is heavily referred to within Applicants' response to the rejections, said Declaration has been given the same weight and consideration as the remainder of Applicants' Remarks, particularly ¶¶ 6-12. Of those, paragraph 12 was reviewed and interpreted as Applicants' evidence which serves to experimentally distinguish the instantly claimed composition from that which is prepared by the prior art (i.e. Amiel article). The Examiner has already addressed the Declaration with regarding such issues as enhanced stability, particle size and claim language (see ¶¶ 6-11), above. Regarding paragraph 12, it is respectfully submitted that the experimental evidence is fundamentally difficult to reconcile, particularly since Applicants provide no details about said experiment other than to disclose the conditions under which the comparative compositions were centrifuged. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

For these reasons, Applicants' arguments are found unpersuasive. Said rejection is therefore **maintained**.

All claims under consideration remain rejected; no claims are allowed.

#### **CONCLUSION**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

#### **CORRESPONDENCE**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey T. Palenik whose telephone number is (571) 270-1966. The examiner can normally be reached on 7:30 am - 5:00 pm; M-F (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey T. Palenik/  
Examiner, Art Unit 1615

/MP WOODWARD/  
Supervisory Patent Examiner, Art Unit 1615